

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number
WO 2005/079572 A1

(51) International Patent Classification⁷: A01N 25/34, 25/02

(21) International Application Number: PCT/US2005/005014

(22) International Filing Date: 17 February 2005 (17.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/546,356 19 February 2004 (19.02.2004) US

(71) Applicants (for all designated States except US): **UNIVERSITY OF FLORIDA RESEARCH FOUNDATION, INC.** [US/US]; 223 Grinter Hall, Gainesville, FL 32611-5500 (US). **DOW AGROSCIENCES LLC** [US/US]; 9330 Zionsville Road, Indianapolis, IN 45268-1054 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SU, NAN-YAO** [US/US]; 10327 S.W. 22nd Place, Davie, FL 33324 (US). **KING, James, Edward** [US/US]; 12830 Fleetwood South Drive, Carmel, IN 46032 (US). **NEESE, Paul, Allen** [US/US]; 13210 Antonia Boulevard, Westfield, IN 46074 (US).

(74) Agents: **SANDERS, Jay, M.** et al.; Saliwanchik, Lloyd & Saliwanchik, A Professional Association, P.O. Box 142950, Gainesville, FL 32614-2950 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/079572 A1

(54) Title: USE OF MOLT-ACCELERATING COMPOUNDS, ECDYSTEROIDS, ANALOGS THEREOF, AND CHITIN SYNTHESIS INHIBITORS FOR CONTROLLING TERMITES

(57) **Abstract:** The subject invention relates in part to the oral administration of ecdysteroids for controlling subterranean termites. Preferred ecdysteroids for use according to the subject invention are ecdysone, certain ecdysone analogs, and 20-hydroxyecdysone, for example. In some preferred embodiments, one or more of these compounds is used in a termite bait in combination with one or more chitin synthesis inhibitors. Thus, the subject invention also relates in part to controlling termites by the use of a chitin synthesis inhibitor (CSI), such as hexaflumuron and/or noviflumuron, together with an ecdysteroid (and analogs thereof) or molt-accelerating compound (MAC), such as halofenozone. The subject invention also relates to mixtures comprising these two active ingredients. The MAC / ecdysteroid analog induces a preliminary molting event in termite workers (they could not complete the molting), which then allows the CSI to further disrupt the molt and cause mortality. The combination of these active ingredients, causing accelerated molting together with inhibition of chitin synthesis, is surprisingly shown herein to enhance activity against termites, as compared to either group of compounds alone.